

Recombinant human 6-Phosphogluconate Dehydrogenase/PGD protein

Catalog Number: ATGP3238

PRODUCT INFORMATION

Expression system

E.coli

Domain

1-483aa

UniProt No.

P52209

NCBI Accession No.

NP_002622

Alternative Names

6-phosphogluconate dehydrogenase, Decarboxylating, PGDH, Phosphogluconate dehydrogenase, 6PGD

PRODUCT SPECIFICATION

Molecular Weight

55.3 kDa (503aa)

Concentration

1mg/ml (determined by Bradford assay)

Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 1mM DTT, 0.1M NaCl, 10% glycerol

Purity

> 90% by SDS-PAGE

Biological Activity

Specific activity is > 10unit/mg, in which one unit oxidize 1.0 umole of 6-phospho-D-gluconate to D-ribulose 5-phosphate per minute at pH 8.0 at 25C, in the presence of beta-NADP.

Tag

His-Tag

Application

SDS-PAGE, Enzyme Activity

Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description

PGD (Phosphogluconate dehydrogenase), also known as 6PGD, is a 483 amino acid enzyme that is involved in the pentose phosphate shunt. Pentose is required for nucleic acid biosynthesis and the pentose phosphate cycle is a major source of NADPH. PGD deficiency increases the level of erythrocyte pyruvate kinase (PK) activity and

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reduces glutathione synthetase (GSH), resulting in hemolysis. Defects in PGD are generally asymptomatic and are inherited in an autosomal dominant fashion. Recombinant human PGD protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography techniques.

Amino acid Sequence

MGSSHHHHHH SSGLVPRGSH MAQADIALIG LAVMGQNLIL NMNDHGFVVC AFNRTVSKVD DFLANEAKGT KVVGAQSLKE
MVSKLKKPRR IILLVKAGQA VDDFIEKLVP LLDTGDIID GGNSEYRDTT RRCRDLKAKG ILFVGSGVSG GEEGARYGPS
LMPGGNKEAW PHIKTIFQGI AAKVGTGEPG CDWVGDEGAG HFVKMVHNGI EYGDMQLICE AYHLMKDVLG
MAQDEMAQAF EDWNKTELDG FLIEITANIL KFQDTDGKHL LPKIRDSAGQ KGTGKWTAS ALEYGVPVTL IGEAVFARCL
SSLDKDERIQA SKKLKGPQKF QFDGDKKSFL EDIRKALYAS KIISYAQGFM LLRQAATEFG WTLNYGGIAL MWRGGCIIRS
VFLGKIKDAF DRNPELQNL LDDFFKSAVE NCQDSWRRRAV STGVQAGIPM PCFTTALSFY DGYRHEMLPA SLIQAQRDYF
GAHTYELLAK PGQFIHTNWT GHGGTVSSSS YNA

General References

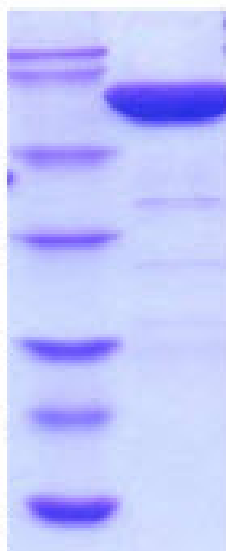
Le TD., et al. (2010) Proc Natl Acad Sci U S A. 107(7):3198-203.
Tagen M., et al. (2009) J Immunol. 183(10):6313-9.

DATA

SDS-PAGE

(kDa)

70
57
40
28
18
13.5
8.5



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

15% SDS-PAGE (3ug)